



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200  
Fax 613 632-5246

**D205-596-107**  
**Job Sheet 193116**



**Part No:** D205-596-107

**Job Qty:** 1 pcs

**Part Name:** Aft Crosstube - Extended Height 31"



**Part Weight:** 0 lbs

**Status:** New

**Priority:** Medium

**Job Created:** 4/9/19

**Job Tracking No:**

**Due Date:** 4/30/19

**Created By:** Linda Lacelle

**Type:** SOLD

**Description:**

**Note:** D205-596-107 REV.C IPP Rev:D 05.03.21 Added bending procedure KJ/JLM IPP Rev:E 08-01-10 ECN 1075  
DD IPP Rev F 08.04.28 Added bending & mat'l EC verified by: DD IPP REV:G 13.11.29 as per dwg DEO B-2  
DD VERF:JLM IPP REV:H 15.01.28 as per dwg DEO B-3/CHG004 DD VERF:JLM IPP REV:I 18.02.08 AS  
PER DWG REV.C DD VERF:JFS

**Ship Via:**

### Bill of Materials

### Job Routing

| Op No | Operation      | Qty   | Start Date | Due Date | Standard |      | Workcenter/Supplier   |           | Sign-off    |
|-------|----------------|-------|------------|----------|----------|------|-----------------------|-----------|-------------|
|       |                |       |            |          | Setup    | Run  | Workcenter / Supplier | Lead Time |             |
| 105   | Crosstubes - 1 | 1 pcs | 4/30/19    | 4/30/19  | 0.00     | 0.00 | Crosstubes - 1        |           | DR 19/09/11 |
|       |                |       |            |          |          |      | Crosstubes - 2        |           |             |
|       |                |       |            |          |          |      | Crosstubes - 3        |           |             |
|       |                |       |            |          |          |      | Crosstubes - 4        |           |             |
| 107   | QC 7           | 1 pcs | 4/30/19    | 4/30/19  | 0.00     | 0.00 | QC 7 - 10             |           | GP 14-04-12 |
|       |                |       |            |          |          |      | QC 7 - 13             |           |             |
|       |                |       |            |          |          |      | QC 7 - 14             |           |             |
|       |                |       |            |          |          |      | QC 7 - 15             |           |             |
|       |                |       |            |          |          |      | QC 7 - 17             |           |             |
|       |                |       |            |          |          |      | QC 7 - 18             |           |             |
|       |                |       |            |          |          |      | QC 7 - 19             |           |             |
|       |                |       |            |          |          |      | QC 7 - 2              |           |             |
|       |                |       |            |          |          |      | QC 7 - 28             |           |             |
|       |                |       |            |          |          |      | QC 7 - 3              |           |             |
|       |                |       |            |          |          |      | QC 7 - 30             |           |             |
|       |                |       |            |          |          |      | QC 7 - 34             |           |             |
|       |                |       |            |          |          |      | QC 7 - 36             |           |             |
|       |                |       |            |          |          |      | QC 7 - 37             |           |             |
|       |                |       |            |          |          |      | QC 7 - 41             |           |             |
|       |                |       |            |          |          |      | QC 7 - 47             |           |             |
|       |                |       |            |          |          |      | QC 7 - 48             |           |             |
|       |                |       |            |          |          |      | QC 7 - 51             |           |             |
|       |                |       |            |          |          |      | QC 7 - 58             |           |             |
|       |                |       |            |          |          |      | QC 7 - 59             |           |             |
|       |                |       |            |          |          |      | QC 7 - 60             |           |             |
|       |                |       |            |          |          |      | QC 7 - 9              |           |             |
|       |                |       |            |          |          |      | QC 7 - 68             |           |             |
|       |                |       |            |          |          |      | QC 7 - 50             |           |             |
|       |                |       |            |          |          |      | QC 7 - 67             |           |             |



**Container No:** S171803



**Part:** D205-596-107

**Job No:** 193116

**Serial No/Batch:** S171803

**Revision:** C

Dart Aerospace Ltd.  
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QCS

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|           |                             |       |         |           |                         |                               |       |         |           |           |  |
|-----------|-----------------------------|-------|---------|-----------|-------------------------|-------------------------------|-------|---------|-----------|-----------|--|
|           |                             |       |         | QC 7 - 40 |                         |                               |       |         |           |           |  |
| 110       | Crosstubes - Bend - 2 - B4B | 1 pcs | 4/30/19 | 0.00 0.00 | Crosstubes - Bend - B4B | BB 4/23/2019                  |       |         |           |           |  |
| 130       | QC 15                       | 1 pcs | 4/30/19 | 0.00 0.00 | QC 15 - 12              |                               |       |         |           |           |  |
|           |                             |       |         |           | QC 15 - 3               |                               |       |         |           |           |  |
|           |                             |       |         |           | QC 15 - 47              |                               |       |         |           |           |  |
|           |                             |       |         |           | QC 15 - 49              |                               |       |         |           |           |  |
|           |                             |       |         |           | QC 15 - 58              |                               |       |         |           |           |  |
|           |                             |       |         |           | QC 15 - 9               |                               |       |         |           |           |  |
| 140       | Crosstubes - 2 - B4B        | 1 pcs | 4/30/19 | 0.00 0.00 | Crosstubes - 1 - B4B    |                               |       |         |           |           |  |
|           |                             |       |         |           | Crosstubes - 2 - B4B    |                               |       |         |           |           |  |
|           |                             |       |         |           | Crosstubes - 3 - B4B    | BB 4/24/2019                  |       |         |           |           |  |
|           |                             |       |         |           | Crosstubes - 4 - B4B    |                               |       |         |           |           |  |
| 150       | Crosstubes - 3 - B4B        | 1 pcs | 4/30/19 | 0.00 0.00 | Crosstubes - 1 - B4B    | BB 4/24/2019                  |       |         |           |           |  |
|           |                             |       |         |           | Crosstubes - 2 - B4B    |                               |       |         |           |           |  |
|           |                             |       |         |           | Crosstubes - 3 - B4B    |                               |       |         |           |           |  |
|           |                             |       |         |           | Crosstubes - 4 - B4B    |                               |       |         |           |           |  |
| 160       | QC 5                        | 1 pcs | 4/30/19 | 0.00 0.00 | QC 5 - 10               |                               |       |         |           |           |  |
|           |                             |       |         |           | QC 5 - 12               |                               |       |         |           |           |  |
|           |                             |       |         |           | QC 5 - 17               |                               |       |         |           |           |  |
|           |                             |       |         |           | QC 5 - 18               |                               |       |         |           |           |  |
|           |                             |       |         |           | QC 5 - 19               |                               |       |         |           |           |  |
|           |                             |       |         |           | QC 5 - 22               |                               |       |         |           |           |  |
|           |                             |       |         |           | QC 5 - 24               |                               |       |         |           |           |  |
|           |                             |       |         |           | QC 5 - 3                |                               |       |         |           |           |  |
|           |                             |       |         |           | QC 5 - 43               |                               |       |         |           |           |  |
|           |                             |       |         |           | QC 5 - 49               |                               |       |         |           |           |  |
|           |                             |       |         |           | QC 5 - 51               |                               |       |         |           |           |  |
|           |                             |       |         |           | QC 5 - 58               |                               |       |         |           |           |  |
|           |                             |       |         |           | QC 5 - 68               | DAS<br>APR 25 2019 68<br>9-89 |       |         |           |           |  |
|           |                             |       |         |           | QC 5 - 9                |                               |       |         |           |           |  |
|           |                             |       |         |           | QC 5 - 50               |                               |       |         |           |           |  |
|           |                             |       |         |           | QC 5 - 30               |                               |       |         |           |           |  |
|           |                             |       |         |           | QC 5 - 40               |                               |       |         |           |           |  |
|           |                             |       |         |           | 170                     | QC 7                          | 1 pcs | 4/30/19 | 0.00 0.00 | QC 7 - 10 |  |
|           |                             |       |         |           |                         |                               |       |         |           | QC 7 - 13 |  |
|           |                             |       |         |           |                         |                               |       |         |           | QC 7 - 14 |  |
| QC 7 - 15 |                             |       |         |           |                         |                               |       |         |           |           |  |
| QC 7 - 17 |                             |       |         |           |                         |                               |       |         |           |           |  |
| QC 7 - 18 |                             |       |         |           |                         |                               |       |         |           |           |  |
| QC 7 - 19 |                             |       |         |           |                         |                               |       |         |           |           |  |
| QC 7 - 2  |                             |       |         |           |                         |                               |       |         |           |           |  |
| QC 7 - 28 |                             |       |         |           |                         |                               |       |         |           |           |  |
| QC 7 - 3  |                             |       |         |           |                         |                               |       |         |           |           |  |
| QC 7 - 30 |                             |       |         |           |                         |                               |       |         |           |           |  |
| QC 7 - 34 |                             |       |         |           |                         |                               |       |         |           |           |  |
| QC 7 - 36 |                             |       |         |           |                         |                               |       |         |           |           |  |
| QC 7 - 37 |                             |       |         |           |                         |                               |       |         |           |           |  |
| QC 7 - 41 | AL 19-4-25                  |       |         |           |                         |                               |       |         |           |           |  |
| QC 7 - 47 |                             |       |         |           |                         |                               |       |         |           |           |  |
| QC 7 - 48 |                             |       |         |           |                         |                               |       |         |           |           |  |
| QC 7 - 51 |                             |       |         |           |                         |                               |       |         |           |           |  |
| QC 7 - 58 |                             |       |         |           |                         |                               |       |         |           |           |  |
| QC 7 - 59 |                             |       |         |           |                         |                               |       |         |           |           |  |
| QC 7 - 60 |                             |       |         |           |                         |                               |       |         |           |           |  |
| QC 7 - 9  |                             |       |         |           |                         |                               |       |         |           |           |  |
| QC 7 - 68 |                             |       |         |           |                         |                               |       |         |           |           |  |
| QC 7 - 50 |                             |       |         |           |                         |                               |       |         |           |           |  |
| QC 7 - 67 |                             |       |         |           |                         |                               |       |         |           |           |  |
| QC 7 - 40 |                             |       |         |           |                         |                               |       |         |           |           |  |

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|     |                             |       |         |           |                        |                               |
|-----|-----------------------------|-------|---------|-----------|------------------------|-------------------------------|
| 180 | Spray Paint - 2 - B4B       | 1 pcs | 4/30/19 | 0.00 0.00 | Spray Paint - 1 - B4B  | AB 19-4-26                    |
|     |                             |       |         |           | Spray Paint - 2 - B4B  |                               |
|     |                             |       |         |           | Spray Paint - 3 - B4B  |                               |
|     |                             |       |         |           | Spray Paint - 4 - B4B  |                               |
| 190 | QC 14                       | 1 pcs | 4/30/19 | 0.00 0.00 | QC 14 - 15             | DAS<br>APR 29 2019 68<br>9-89 |
|     |                             |       |         |           | QC 14 - 2              |                               |
|     |                             |       |         |           | QC 14 - 34             |                               |
|     |                             |       |         |           | QC 14 - 41             |                               |
|     |                             |       |         |           | QC 14 - 51             |                               |
|     |                             |       |         |           | QC 14 - 58             |                               |
|     |                             |       |         |           | QC 14 - 59             |                               |
|     |                             |       |         |           | QC 14 - 9              |                               |
|     |                             |       |         |           | QC 14 - 68             |                               |
|     |                             |       |         |           | QC 14 - 40             |                               |
|     |                             |       |         |           | QC 14 - 19             |                               |
|     |                             |       |         |           |                        |                               |
| 200 | Crosstubes - 4 - B4B        | 1 pcs | 4/30/19 | 0.00 0.00 | Crosstubes - 1 - B4B   | PD 19-4-27                    |
|     |                             |       |         |           | Crosstubes - 2 - B4B   |                               |
|     |                             |       |         |           | Crosstubes - 3 - B4B   |                               |
|     |                             |       |         |           | Crosstubes - 4 - B4B   |                               |
| 210 | QC 5                        | 1 pcs | 4/30/19 | 0.00 0.00 | QC 5 - 10              | PD 19-04-30                   |
|     |                             |       |         |           | QC 5 - 12              |                               |
|     |                             |       |         |           | QC 5 - 17              |                               |
|     |                             |       |         |           | QC 5 - 18              |                               |
|     |                             |       |         |           | QC 5 - 19              |                               |
|     |                             |       |         |           | QC 5 - 22              |                               |
|     |                             |       |         |           | QC 5 - 24              |                               |
|     |                             |       |         |           | QC 5 - 3               |                               |
|     |                             |       |         |           | QC 5 - 43              |                               |
|     |                             |       |         |           | QC 5 - 49              |                               |
|     |                             |       |         |           | QC 5 - 51              |                               |
|     |                             |       |         |           | QC 5 - 58              |                               |
|     |                             |       |         |           | QC 5 - 68              |                               |
|     |                             |       |         |           | QC 5 - 9               |                               |
|     |                             |       |         |           | QC 5 - 50              |                               |
|     |                             |       |         |           | QC 5 - 30              |                               |
|     |                             |       |         |           | QC 5 - 40              |                               |
|     |                             |       |         |           |                        |                               |
| 220 | Packaging 3-1 - Stock - B4B | 1 pcs | 4/30/19 | 0.00 0.00 | Packaging 3 - 1 - B4B  | DAS<br>46 APR 30 2019<br>9-89 |
|     |                             |       |         |           | Packaging 3 - 2 - B4B  |                               |
|     |                             |       |         |           | Packaging 3 - 3 - B4B  |                               |
|     |                             |       |         |           | Packaging 3 - 4 - B4B  |                               |
|     |                             |       |         |           | Packaging 3 - 5 - B4B  |                               |
|     |                             |       |         |           | Packaging 3 - 6 - B4B  |                               |
|     |                             |       |         |           | Packaging 3 - 7 - B4B  |                               |
|     |                             |       |         |           | Packaging 3 - 8 - B4B  |                               |
|     |                             |       |         |           | Packaging 3 - 9 - B4B  |                               |
|     |                             |       |         |           | Packaging 3 - 10 - B4B |                               |
|     |                             |       |         |           | Packaging 3 - 11 - B4B |                               |
|     |                             |       |         |           | Packaging 3 - 12 - B4B |                               |
|     |                             |       |         |           | Packaging 3 - 13 - B4B |                               |
|     |                             |       |         |           | Packaging 3 - 14 - B4B |                               |
|     |                             |       |         |           | Packaging 3 - 15 - B4B |                               |
|     |                             |       |         |           | Packaging 3 - 16 - B4B |                               |
|     |                             |       |         |           | Packaging 3 - 17 - B4B |                               |
|     |                             |       |         |           | Packaging 3 - 18 - B4B |                               |
|     |                             |       |         |           | Packaging 3 - 19 - B4B |                               |
|     |                             |       |         |           | Packaging 3 - 20 - B4B |                               |
|     |                             |       |         |           | Packaging 3 - 21 - B4B |                               |
|     |                             |       |         |           | Packaging 3 - 22 - B4B |                               |
|     |                             |       |         |           | Packaging 3 - 23 - B4B |                               |
|     |                             |       |         |           |                        |                               |

|                  |       |         |           |                 |                        |                  |
|------------------|-------|---------|-----------|-----------------|------------------------|------------------|
|                  |       |         |           |                 | Packaging 3 - 24 - B4B |                  |
|                  |       |         |           |                 | Packaging 3 - 25 - B4B |                  |
|                  |       |         |           |                 | Packaging 3 - 26 - B4B |                  |
|                  |       |         |           |                 | Packaging 3 - 27 - B4B |                  |
|                  |       |         |           |                 | Packaging 3 - 28 - B4B |                  |
|                  |       |         |           |                 | Packaging 3 - 29 - B4B |                  |
|                  |       |         |           |                 | Packaging 3 - 30 - B4B |                  |
|                  |       |         |           |                 | Packaging 3 - 31 - B4B |                  |
|                  |       |         |           |                 | Packaging 3 - 32 - B4B |                  |
|                  |       |         |           |                 | Packaging 3 - 33 - B4B |                  |
|                  |       |         |           |                 | Packaging 3 - 34 - B4B |                  |
|                  |       |         |           |                 | Packaging 3 - 35 - B4B |                  |
|                  |       |         |           |                 | Packaging 3 - 36 - B4B |                  |
| 225 DC - 1 - B4B | 1 pcs | 4/30/19 | 0.00 0.00 | DC - 1 - B4B    |                        | 21               |
|                  |       |         |           | DC - 2 - B4B    |                        | 9-85 APR 30 2019 |
| 230 QC 21 - FG   | 1 pcs | 4/30/19 | 0.00 0.00 | QC 21 - FG - 21 |                        |                  |
|                  |       |         |           | QC 21 - FG - 70 |                        |                  |
|                  |       |         |           | QC 21 - SA - 53 |                        | 21 APR 30 2019   |

**Part Op 105 - (Crosstubes Chemical Conversion) INSIDE AND OUT**

Descriptions: 107 - (QC7-Inspect Chemical Conversion Coat

110 - (CNC Alpha 160 Bender)1- Bend as per Dwg D2890 using CNC bender program D2890 2- Mark cut lines as per dwg D205-596-107

130 - (QC15- Crosstube Dimensional Check)

140 - (Crosstubes)1-Cut as per dimension sheet 2-Deburr & Inspect for surface damage. Polish cut surface.Scribe part # and batch # on one end of tube.

150 - (Crosstubes)\*\*\*IMMEDIATELY AFTER GRINDING\*\*\*

160 - (QC5- Inspect part completeness to step on W/O)

170 - (QC7-Inspect Chemical Conversion Coat)

180 - (Spray Paint / NDT Room)1-Prime inside and outside per QSI 005 4.2 Primer 5154137 Paint 3166819

190 - (QC14- Inspect Spray Paint)

200 - (Crosstubes)1- Lightly scuff the bonded area using a 180 grit sand paper and clean the area with 41058 wash 'n' wipe 2- Apply Proseal as per dwg D205-596-107. 3- Install clamps as per dwg (Note 12)Torque clamps 80 to 100 in-lb as per dwg and Note 13 ) 5156334 exp 19/10 19-4-27 to 19-4-30

210 - (QC5- Inspect part completeness to step on W/O)\*\*\*PRIOR TO PACKAGING RECHECK TORQUE ON CLAMPS AFTER PROSEAL HAS CURED 72HOURS.\*\*\*

220 - (Identify as per dwg & Stock Location: )Identify and pack for shipping as per PPP D205-596-107

225 - (Document Control)Photocopy D205-594 bluefile & type labels per PPP D205-596-107 CHG003

230 - (QC21- Final Inspection - Work Order Release)

**Job BOM**

| Part / Item   | Component Name                         | Quantity     | Operation                | Container |
|---------------|----------------------------------------|--------------|--------------------------|-----------|
| D6008-180     | Crosstube Extrusion                    | 1 pcs (1 ea) | 105-Crosstubes - 1       |           |
| D2940-1       | Support                                | 2 pcs (2 ea) | 200-Crosstubes - 4 - B4B |           |
| D3595-063-530 | Rubber Cushion 0.63" Wide X 5.30" Long | 4 pcs (4 ea) | 200-Crosstubes - 4 - B4B |           |
| MS21920-28    | Clamp                                  | 4 Ea (4 ea)  | 200-Crosstubes - 4 - B4B |           |

**Job Allocations**

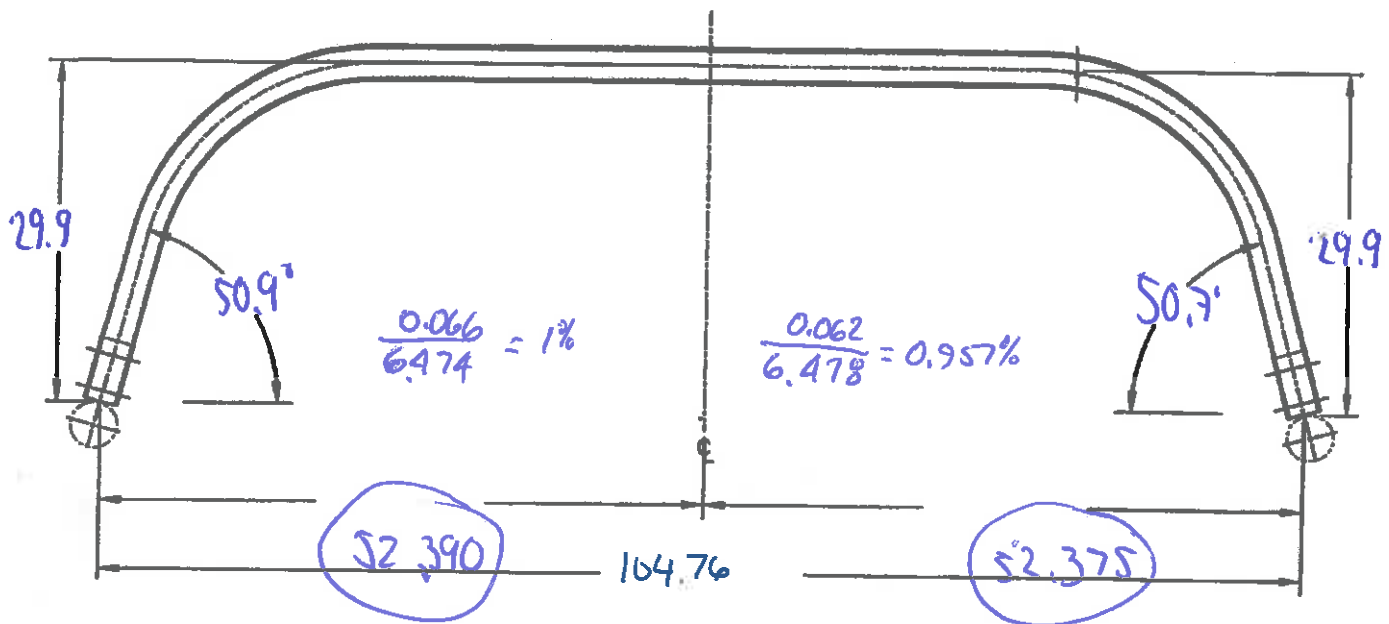
| Operation                | Component Part | Required  | Inventory | Allocated |
|--------------------------|----------------|-----------|-----------|-----------|
| 105-Crosstubes - 1       | D6008-180      | 1         | 5         | 0         |
| 200-Crosstubes - 4 - B4B | D2940-1        | 2 5156334 | 10        | 0         |
|                          | D3595-063-530  | 4 5151475 | 54        | 0         |
|                          | MS21920-28     | 4 5173201 | 45        | 0         |

**Part Specifications**

Specifications could not be found.

|                                                   |  |                                  |
|---------------------------------------------------|--|----------------------------------|
| <b>DART AEROSPACE LTD</b>                         |  | <b>Work Order:</b> 193116        |
| <b>Description:</b> Crosstube High-High Aft       |  | <b>Part Number:</b> D205-596-107 |
| <b>Inspection Dwg:</b> D205-596-107 <b>Rev:</b> C |  | <b>Page 1 of 1</b>               |

| Required Dimension | Min   | Max   |
|--------------------|-------|-------|
| Height             | 29.7  | 29.9  |
| 1/2 Span           | 52.4  | 52.6  |
| Angle              | 49    | 52    |
| Total Span         | 104.8 | 105.2 |
| Bending Passes     | 3     | --    |
| Crushing           | --    | 6%    |



|                | Side A | Side B |
|----------------|--------|--------|
| Bending Passes | 10     | 9      |
| Crushing       | 1.0%   | 1%     |
| Comments       |        |        |
|                |        |        |
|                |        |        |
|                |        |        |
|                |        |        |

|                 |  |
|-----------------|--|
| QC15 Inspection |  |
| Date            |  |

| Rev | Date     | Change                             | Revised by | Approved |
|-----|----------|------------------------------------|------------|----------|
| A   | 07.02.06 | New Issue                          | KJ/JM      |          |
| B   | 08.04.21 | Dwg Rev updated                    | KJ/JM      |          |
| C   | 12.04.16 | Added bending, crushing dimensions | KJ         |          |
| D   | 18.05.25 | Dwg Rev updated                    | MG         |          |



Entered: \_\_\_\_\_ Date: \_\_\_\_\_

## WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. 19-7209Route update only ☐

| DISPOSITION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                               | DEPARTMENT/PROCESS                             |                                     |                       |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|------------------------------------------------|-------------------------------------|-----------------------|--------------------------|---------------|--------------------------|-----------------------|--------------------------|----------|--------------------------|---------------------|--------------------------|---------------------|--------------------------|---------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|---------------|------------------|------------------|-----------------------|---------------|-------------------|-----------|-----------------|---------|----------------------|------|--------|---------------------------------|--------------------|-------------------|-------------|-----------------|---------|--------------|----------------|--|
| Job: <u>193116</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Rework <input type="checkbox"/>               | Cross tube <input checked="" type="checkbox"/> | Eng. (Non-AW)                       | Engineering           |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
| Part No. <u>1205-596-107</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Scrap <input type="checkbox"/>                | Small Fab <input type="checkbox"/>             | Prod. Eng. Coord.                   | Water Jet             |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Use-as-is <input checked="" type="checkbox"/> | Large Fab <input type="checkbox"/>             | Finishing <input type="checkbox"/>  | Supplier              |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                               |                                                | Rec/Store/Packaging                 | Quality               |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
| Date: <u>19/4/22</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Sequence #: _____                             | QTY Affected: <u>1</u>                         |                                     |                       |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                               | Disposition                                    |                                     |                       |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
| <u>Tube is bent narrow, 0.040 below tolerance</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                               | <u>Acceptable.</u>                             |                                     |                       |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
| Root Cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               | Fault Category                                 |                                     |                       |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
| <table border="1"><tr><td>Operator</td><td><input checked="" type="checkbox"/></td></tr><tr><td>Manufacturing Process</td><td><input type="checkbox"/></td></tr><tr><td>Equip/Tooling</td><td><input type="checkbox"/></td></tr><tr><td>Handling/Preservation</td><td><input type="checkbox"/></td></tr><tr><td>Material</td><td><input type="checkbox"/></td></tr><tr><td>Product Improvement</td><td><input type="checkbox"/></td></tr><tr><td>Process Improvement</td><td><input type="checkbox"/></td></tr><tr><td>Human Factors</td><td><input type="checkbox"/></td></tr></table> |                                               | Operator                                       | <input checked="" type="checkbox"/> | Manufacturing Process | <input type="checkbox"/> | Equip/Tooling | <input type="checkbox"/> | Handling/Preservation | <input type="checkbox"/> | Material | <input type="checkbox"/> | Product Improvement | <input type="checkbox"/> | Process Improvement | <input type="checkbox"/> | Human Factors | <input type="checkbox"/> | <table border="1"><tr><td>Contamination</td><td>Power Loss/Surge</td><td>Positioned Wrong</td></tr><tr><td>Misaligned/off center</td><td>Folio/Program</td><td>Outside Tolerance</td></tr><tr><td>BOM/Route</td><td>Grain Direction</td><td>Drawing</td></tr><tr><td>Broken/Damage/Defect</td><td>Weld</td><td>Finish</td></tr><tr><td>Incomplete/Unclear Instructions</td><td>Wrong Stock Pulled</td><td>Part Lost/Missing</td></tr><tr><td>Drill Holes</td><td>Out of Sequence</td><td>Misread</td></tr><tr><td>Fit/Function</td><td>Off-set/Set-up</td><td></td></tr></table> |  |  |  | Contamination | Power Loss/Surge | Positioned Wrong | Misaligned/off center | Folio/Program | Outside Tolerance | BOM/Route | Grain Direction | Drawing | Broken/Damage/Defect | Weld | Finish | Incomplete/Unclear Instructions | Wrong Stock Pulled | Part Lost/Missing | Drill Holes | Out of Sequence | Misread | Fit/Function | Off-set/Set-up |  |
| Operator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <input checked="" type="checkbox"/>           |                                                |                                     |                       |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
| Manufacturing Process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <input type="checkbox"/>                      |                                                |                                     |                       |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
| Equip/Tooling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/>                      |                                                |                                     |                       |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
| Handling/Preservation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <input type="checkbox"/>                      |                                                |                                     |                       |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
| Material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <input type="checkbox"/>                      |                                                |                                     |                       |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
| Product Improvement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/>                      |                                                |                                     |                       |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
| Process Improvement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/>                      |                                                |                                     |                       |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
| Human Factors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/>                      |                                                |                                     |                       |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
| Contamination                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Power Loss/Surge                              | Positioned Wrong                               |                                     |                       |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
| Misaligned/off center                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Folio/Program                                 | Outside Tolerance                              |                                     |                       |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
| BOM/Route                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Grain Direction                               | Drawing                                        |                                     |                       |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
| Broken/Damage/Defect                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Weld                                          | Finish                                         |                                     |                       |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
| Incomplete/Unclear Instructions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Wrong Stock Pulled                            | Part Lost/Missing                              |                                     |                       |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
| Drill Holes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Out of Sequence                               | Misread                                        |                                     |                       |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
| Fit/Function                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Off-set/Set-up                                |                                                |                                     |                       |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |
| Other/Details:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                               |                                                |                                     |                       |                          |               |                          |                       |                          |          |                          |                     |                          |                     |                          |               |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |               |                  |                  |                       |               |                   |           |                 |         |                      |      |        |                                 |                    |                   |             |                 |         |              |                |  |

MRB (QS1042)  
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Completed By  
PD 19-04-30

Lead hand / Supervisor

QC / QA Coordinator  
68  
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